

This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.0042 MGD wastewater treatment plant. This permit action consists of updating the Water Quality Standards and updating boilerplate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

1. Facility Name and Mailing Address: SkillsUSA/VICA WWTP  
PO Box 4000  
Ashburn, VA 20146  
SIC Code : 4952 WWTP  
Facility Location: 14001 James Monroe Hwy  
Leesburg, VA 20176  
County: Loudoun  
Facility Contact Name: Todd Danielson, P.E., Manager  
of Community Systems  
Telephone Number: (571) 291-7835
2. Permit No.: VA0061280  
Expiration Date of previous permit: 7/14/2010  
Other VPDES Permits associated with this facility: None  
Other Permits associated with this facility: None  
E2/E3/E4 Status: Not Applicable
3. Owner Name: Loudoun Water  
Owner Contact/Title: Dales Hammes,  
General Manager  
Telephone Number: (571) 291-7700
4. Application Complete Date: March 31, 2010  
Permit Drafted By: Alison Thompson  
Date Drafted: 4/13/2010  
Draft Permit Reviewed By: Joan Crowther  
Date Reviewed: 4/14/2010  
Public Comment Period : Start Date: June 2, 2010  
End Date: July 2, 2010
5. Receiving Waters Information: See Attachment 1 for the Flow Frequency Determination  
Receiving Stream Name : Clark's Run  
Drainage Area at Outfall: 2.3 sq.mi.  
River Mile: CLR0.3.96  
Stream Basin: Potomac  
Subbasin: Potomac  
Section: 10  
Stream Class: III  
Special Standards: None  
Waterbody ID: VAN-A03R  
7Q10 Low Flow: 0 MGD  
7Q10 High Flow: 0 MGD  
1Q10 Low Flow: 0 MGD  
1Q10 High Flow: 0 MGD  
Harmonic Mean Flow: 0 MGD  
30Q5 Flow: 0 MGD  
303(d) Listed: Yes  
30Q10 Flow: 0 MGD  
TMDL Approved: No  
Date TMDL Approved: NA
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:
 

<input checked="" type="checkbox"/> State Water Control Law	<input checked="" type="checkbox"/> EPA Guidelines
<input checked="" type="checkbox"/> Clean Water Act	<input checked="" type="checkbox"/> Water Quality Standards
<input checked="" type="checkbox"/> VPDES Permit Regulation	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> EPA NPDES Regulation	
7. Licensed Operator Requirements: Class III
8. Reliability Class: Class II

## 9. Permit Characterization:

<input type="checkbox"/> Private	<input type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input checked="" type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

## 10. Wastewater Sources and Treatment Description:

This WWTP is an extended air activated sludge package plant. Flow enters the facility through a comminutor; the comminutor can be bypassed by using the bar screen. The wastewater then enters the aeration basin. The blowers are operated using a timer. When the blowers are running, sludge is returned to the head of the basin. There is one clarifier. Clarified water is chlorinated using sodium hypochlorite solution that is injected with a single entry point. Dechlorination is done with a tablet feeder. The outfall is a shore based outfall with a headwall and flapper valve. Effluent is discharged directly to Clark's Run.

For the past year, Loudoun Water has been pumping and hauling wastewater from this facility to the Elysian Heights STP (VA0092380). Loudoun Water is pursuing a permanent pump and haul permit for this facility from the County. Since the permanent permit has not been granted, the facility must maintain the discharge permit. See Attachment 2 for a facility schematic/diagram.

TABLE 1 – Outfall Description				
Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Domestic Wastewater	See Item 10 above.	0.0042 MGD	39° 13' 45" N 77° 31' 50" W
See Attachment 3 for (Leesburg, DEQ #215D) topographic map.				

## 11. Sludge Treatment and Disposal Methods:

The sludge generated at this facility is stored in a sludge holding tank. When the plant is operational, the tank is pumped out and hauled to the Broad Run WRF for treatment. Since the facility is on pump and haul, there is currently no sludge generated.

## 12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

There are no discharges, intakes, or monitoring stations in the vicinity of this discharge.

## 13. Material Storage:

TABLE 2 - Material Storage		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Currently there are no chemicals stored onsite since the facility is on pump and haul.		

**14. Site Inspection:**

Due to staffing and budget constraints, this facility has not had a full technical inspection in the past 3 years. Since there has been no new construction at the facility and since the facility is on pump and haul, permitting staff did not conduct a site inspection. It is staff's best professional judgment that the application received on March 31, 2010, is accurate and representative of actual site conditions.

**15. Receiving Stream Water Quality and Water Quality Standards:****a) Ambient Water Quality Data**

Monitoring data for Clarks Run is collected at Station 1aCLK002.40, located at the Route 658 bridge crossing. This station is in Assessment Unit VAN-A03R\_CLK01A08, which extends from the confluence with an unnamed tributary to Clarks Run, at rivermile 4.62, and continues downstream until the confluence with the Potomac River. Station 1aCLK002.40 is located approximately 1.5 rivermiles downstream from the outfall of VA0061280. *E. coli* monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. The aquatic life and wildlife uses are considered fully supporting. The fish consumption use was not assessed.

Limestone Branch has an approved TMDL for bacteria (*E. coli*), but Clark's Run drains directly to the Potomac River and was not included in the Limestone Branch TMDL.

**b) Receiving Stream Water Quality Criteria**

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream Clark's Run is located within Section 10 of the Potomac River Basin, and classified as a Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Attachment 4 details other water quality criteria applicable to the receiving stream.

**Ammonia:**

The facility has been on pump and haul for the past year, so there is no recent effluent data. There is a small data set from Clark's Run ambient monitoring, so stream data was used to establish the ammonia criteria. The 90<sup>th</sup> percentile pH is 7.8 s.u. and the temperature is 22 C. The ammonia water quality standards calculations are shown in Attachment 4.

**Metals Criteria:**

The Water Quality Criteria for some metals are dependent on the receiving stream's hardness (expressed as mg/l calcium carbonate). There is no hardness data for the receiving stream or from the effluent. Staff guidance suggests using a default hardness value of 50 mg/L CaCO<sub>3</sub> for streams east of the Blue Ridge. The hardness-dependent metals criteria in Attachment 4 are based on this default value.

**Bacteria Criteria:** The Virginia Water Quality Standards (9VAC25-260-170 A.) states that the following criteria shall apply to protect primary recreational uses in surface waters:

- 1) *E. coli* bacteria per 100 ml of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean <sup>1</sup>
Freshwater <i>E. coli</i> (N/100 ml)	126

<sup>1</sup>For a minimum of four weekly samples [taken during any calendar month].

c) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Clark's Run, is located within Section 10 of the Potomac Basin. This section has been designated with no special standards.

d) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on April 13, 2010, for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Upland Sandpiper and Loggerhead Shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect the threatened and endangered species found near the discharge.

**16. Antidegradation (9VAC25-260-30):**

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on an evaluation of the critical stream flows. The critical stream flows for this tributary are 0.00 MGD. At times, the stream is comprised entirely of effluent. It is staff's best professional opinion that the instream waste concentration is 100% during critical stream flows, and the water quality of the stream will mirror the quality of the effluent. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

**17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development :**

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. In this case since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLA's are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

a) Effluent Screening:

Effluent data obtained from DMRs and the permit application have been reviewed and determined to be suitable for evaluation. Effluent data were reviewed, and there have been no exceedances of the established limitations.

The following pollutants require a wasteload allocation analysis: Ammonia as N and Total Residual Chlorine.

b) Mixing Zones and Wasteload Allocations (WLAs):

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:

WLA	=	Wasteload allocation
C <sub>o</sub>	=	In-stream water quality criteria
Q <sub>e</sub>	=	Design flow
Q <sub>s</sub>	=	Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria)
f	=	Decimal fraction of critical flow
C <sub>s</sub>	=	Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C<sub>o</sub>.

c) Effluent Limitations Toxic Pollutants, Outfall 001 –

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

## 1) Ammonia as N:

A staff initiated permit modification in September 1997 removed the effluent limits for ammonia from this permit. This action was based on March 25, 1995 revisions to the DEQ methodology for calculating water quality-based wasteload allocations, as per OWRM Guidance Memorandum 93-015, Amendment 1. Since this time, the ammonia criteria have been revised, so staff re-evaluated the need for an ammonia limit. Since this is an intermittent discharge, staff evaluated the need for limits based on the acute criteria presented in Attachment 4. Staff determined that an ammonia limit of 12 mg/L is necessary for this reissuance (Attachment 5).

## 2) Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.008 mg/L and a weekly average limit of 0.010 mg/L are proposed for this discharge (see Attachment 5).

d) Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (D.O.), biochemical oxygen demand-5 day (BOD<sub>5</sub>), total suspended solids (TSS), and pH limitations are proposed.

Dissolved Oxygen and BOD<sub>5</sub> limitations are based on the stream modeling conducted in February 1974 (Attachment 6) and are set to meet the water quality criteria for D.O. in the receiving stream. The modeling was done with a facility design flow of 0.00225; there have been no observed problems in the receiving stream and it is staff's best professional judgment that the limits are protective of the water quality standards. It is staff's practice

to equate the Total Suspended Solids limits with the BOD<sub>5</sub> limits. TSS limits are established to equal BOD<sub>5</sub> limits since the two pollutants are closely related in terms of treatment of domestic sewage.

It is staff's practice to equate the Total Suspended Solids limits with the BOD<sub>5</sub> limits. TSS limits are established to equal BOD<sub>5</sub> limits since the two pollutants are closely related in terms of treatment of domestic sewage. The limit for Total Suspended Solids is based on Best Professional Judgment.

pH limitations are set at the water quality criteria.

*E. coli* limitations are in accordance with the Water Quality Standards 9VAC25-260-170. Since there is an impairment for the receiving stream, staff has included monitoring and an *E. coli* limitation of 126 n/cmL.

e) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following table. Limits were established for Flow, BOD<sub>5</sub>, Total Suspended Solids, pH, Dissolved Oxygen, *E. coli*, Ammonia as N, and Total Residual Chlorine.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/l), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD and TSS (or 65% for equivalent to secondary). The limits in this permit are water-quality-based effluent limits and result in greater than 85% removal.

**18. Antibacksliding:**

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

**19. Effluent Limitations/Monitoring Requirements:**

Design flow is 0.0042 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D	Estimate
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
BOD <sub>5</sub>	3,5	24 mg/L 0.40 kg/day	36 mg/L 0.60 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS)	2	24 mg/L 0.40 kg/day	36 mg/L 0.60 kg/day	NA	NA	1/M	Grab
Dissolved Oxygen	3	NA	NA	6.0 mg/L	NA	1/D	Grab
<i>E. coli</i> (Geometric Mean)	3	126 n/100mls	NA	NA	NA	4/M	Grab
Ammonia as N*	3	12 mg/L	12 mg/L	NA	NA	1/M*	Grab
Total Residual Chlorine (after contact tank)	2, 3, 4	NA	NA	1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	3	0.008 mg/L	0.010 mg/L	NA	NA	1/D	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. DEQ Disinfection Guidance
5. Stream Model- Attachment 6

*MGD* = Million gallons per day.*NA* = Not applicable.*NL* = No limit; monitor and report.*S.U.* = Standard units.*1/D* = Once every day.*1/M* = Once every month.*4/M* = Four per month, weekly if possible, during one month of the year.

EST = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

\*Monitoring frequency for Ammonia as N shall be 1/month in the first year of permit coverage. If the first year results demonstrate full compliance with the effluent limitations and the permittee requests and receives authorization from the DEQ Northern Regional Office, monitoring frequency shall be reduced to 1/calendar quarter. Should the permittee be issued a warning letter related to violation of effluent limitations, a notice of violation, or be the subject of an active enforcement action, monitoring frequency for Ammonia as N shall revert to 1/month, upon issuance of the letter or notice or initiation of the enforcement action and remain in effect until the permit's expiration date. Reports of quarterly monitoring shall be submitted to the DEQ Northern Regional Office no later than the 10th day of April, July, October, and January.

**20. Other Permit Requirements :**

- a) Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-70 and by the Water Quality Standards at 9VAC25-260-170. A minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more that 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be <1.0 mg/L with any TRC <0.6 mg/L considered a system failure. Monitoring at numerous STPs has concluded that a TRC residual of 1.0 mg/L is an adequate indicator of compliance with the *E. coli* criteria. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

**21. Other Special Conditions :**

- a) 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a POTW.
- b) Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200 B.1. and B.2. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- c) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. Within 90 days of the effective date of this permit, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d) CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- e) Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200 C, and Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.
- f) Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet a reliability Class of II.
- g) Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.
- h) Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- i) Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2., and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.
- j) Treatment Works Closure Plan. The State Water Control Law §62.1-44.15:1.1, makes it illegal for an owner to cease operation and fail to implement a closure plan when failure to implement the plan would result in harm to human health or the environment. This condition is used to notify the owner of the need for a closure plan where a facility is being replaced or is expected to close.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.



**23. Changes to the Permit from the Previously Issued Permit:**

- a) Special Conditions:
  - 1) A special condition for a treatment works closure plan is included with this reissuance since Loudoun Water is pursuing a permanent pump and haul permit for this facility.
  - 2) A TMDL reopener was added since the receiving stream is impaired for *E. coli*.
- b) Monitoring and Effluent Limitations:
  - 1) *E. coli* monitoring and a limitation were included with this reissuance.
  - 2) Ammonia as N monthly average and weekly average limitations were included with this reissuance.

**24. Variances/Alternate Limits or Conditions:**

None

**25. Public Notice Information:**

First Public Notice Date: June 2, 2010

Second Public Notice Date: June 9, 2010

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3834, [Alison.Thompson@deq.virginia.gov](mailto:Alison.Thompson@deq.virginia.gov). See Attachment 7 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

**26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):**

Clark's Run has been assessed as having a Recreational Use Impairment: Sufficient excursions from the maximum *E. coli* bacteria criterion (3 of 6 samples - 50.0%) were recorded at DEQ's ambient water quality monitoring station (1aCLK002.40) at the Route 658 crossing to assess this stream segment as not supporting of the recreation use goal for the 2008 water quality assessment. The TMDL is due by 2020.

TMDL Reopener: This special condition is to allow the permit to be reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

**27. Additional Comments:**

Previous Board Action(s): None.

DEQ Staff/VDH Comments: In a letter dated April 2, 2010 VDH- ODW Office recommended a Class I reliability for this facility based on a drinking water intake for the Town of Leesburg on the Potomac River 17 miles downstream of this discharge. DEQ weighed this recommendation against the following information:

- 1) Other VPDES facilities in the same area with similar small discharges have Class II/III reliability.  
Lucketts Elementary School VA0021750 – Class III in 2004  
Hiway MHP VA0074942 – Class II  
One Stop Trailer Park VA0074934 – Class II in 2002
- 2) The design flow for this facility is 0.0042 MGD. Review of the discharge information on file shows that the facility has not discharged in over a year.
- 3) This discharge is intermittent in nature when they do discharge. The facility discharges as few as 3 days per month to as many as 14 days per month.
- 4) A 1999 DEQ inspection report noted that “effluent flow seems to seep into the streambed at the outfall due to the very dry conditions.”

Based on the above information, staff feels that it is appropriate to keep the reliability of this facility at Class II.

Public Comment: No comments were received during the public comment period.

EPA Checklist: The checklist can be found in Attachment 8.

April 21, 2005

**MEMORANDUM**

TO: VPDES Reissuance File VA0061280

FROM: Alison Thompson

SUBJECT: Flow Frequency Review for VPDES Permit No. VA0061280  
Skills USA/VICA STP

COPIES:

The outfall for this STP has not been relocated since the last permit reissuance. The discharge occurs to Clark's Run in Loudoun County. Flow Frequencies were determined using linear regression with flow data from gages on Catoctin Creek and Limestone Branch (Memo dated July 19, 1999). Also in 1999, DEQ Inspection Staff did a site inspection as part of the permit reissuance. The information contained in the report stated that, "Clark's Run had no flow upstream of the discharge."

Based on the above information, plus the fact that the drainage area at the outfall location is 2.3 sq miles, the flow frequency determinations (1Q10, 7Q10, 30Q5, 30Q10) will be revised to 0.0 cfs with the harmonic mean undefined.

Attachments: Flow Frequency Memo Dated July 19, 1999  
Relevant inspection forms from the 1999 site inspection

## MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY  
Office of Water Quality Assessments  
629 East Main Street P.O. Box 10009 Richmond, Virginia 23219

SUBJECT: Flow Frequency Determination  
V.I.C.A. WWTP - #VA0061280

TO: Jim Engbert, NRO

FROM: Paul E. Herman, P.E., WQAP *PEH*

DATE: July 19, 1999

COPIES: Ron Gregory, Charles Martin, File

*[Handwritten signature]*  
JUL 20 1999

Non-Point V.A. Region  
Dept. of Env. Quality

This memo supersedes my November 22, 1994, email to you concerning the subject VPDES permit.

The V.I.C.A. WWTP discharges to an unnamed tributary of Clarks Run near Luckettes, VA. Stream flow frequencies are required at this site by the permit writer for the purpose of calculating effluent limitations for the VPDES permit.

The USGS conducted several flow measurements on an unnamed tributary to Limestone Branch from 1979-1980. The measurements were made approximately 4.0 miles south of the discharge point at the Route 661 bridge. The measurements made by the USGS correlated very well with the same day daily mean values from the continuous record gage on Catoctin Creek near Taylorstown, VA #01638480. The measurements and daily mean values were plotted on a logarithmic graph and a best fit line was drawn through the data points. The required flow frequencies from the reference gage were plotted on the regression line and the associated flow frequencies at the measurement site were determined from the graph.

The flow frequencies at the discharge point were determined by using the values at the measurement site and adjusting them by proportional drainage areas. The data for the reference gage, the measurement site and the discharge point are presented below:

### Catoctin Creek at Taylorstown, VA (#01638480):

Drainage Area = 89.6 mi <sup>2</sup>	
1Q10 = 0.84 cfs	High Flow 1Q10 = 7.3 cfs
7Q10 = 1.11 cfs	High Flow 7Q10 = 10 cfs
30Q5 = 3.91 cfs	HM = 15 cfs

### UT to Limestone Branch at measurement site (#01643600):

Drainage Area = 6.82 mi <sup>2</sup>	
1Q10 = 0.23 cfs	High Flow 1Q10 = 1.0 cfs
7Q10 = 0.28 cfs	High Flow 7Q10 = 1.3 cfs
30Q5 = 0.65 cfs	HM = 1.6 cfs

**Clarks Run at discharge point:**

Drainage Area = 2.3 mi<sup>2</sup>

1Q10 = 0.08 cfs

High Flow 1Q10 = 0.34 cfs

7Q10 = 0.09 cfs

High Flow 7Q10 = 0.44 cfs

30Q5 = 0.22 cfs

HM = 0.54 cfs

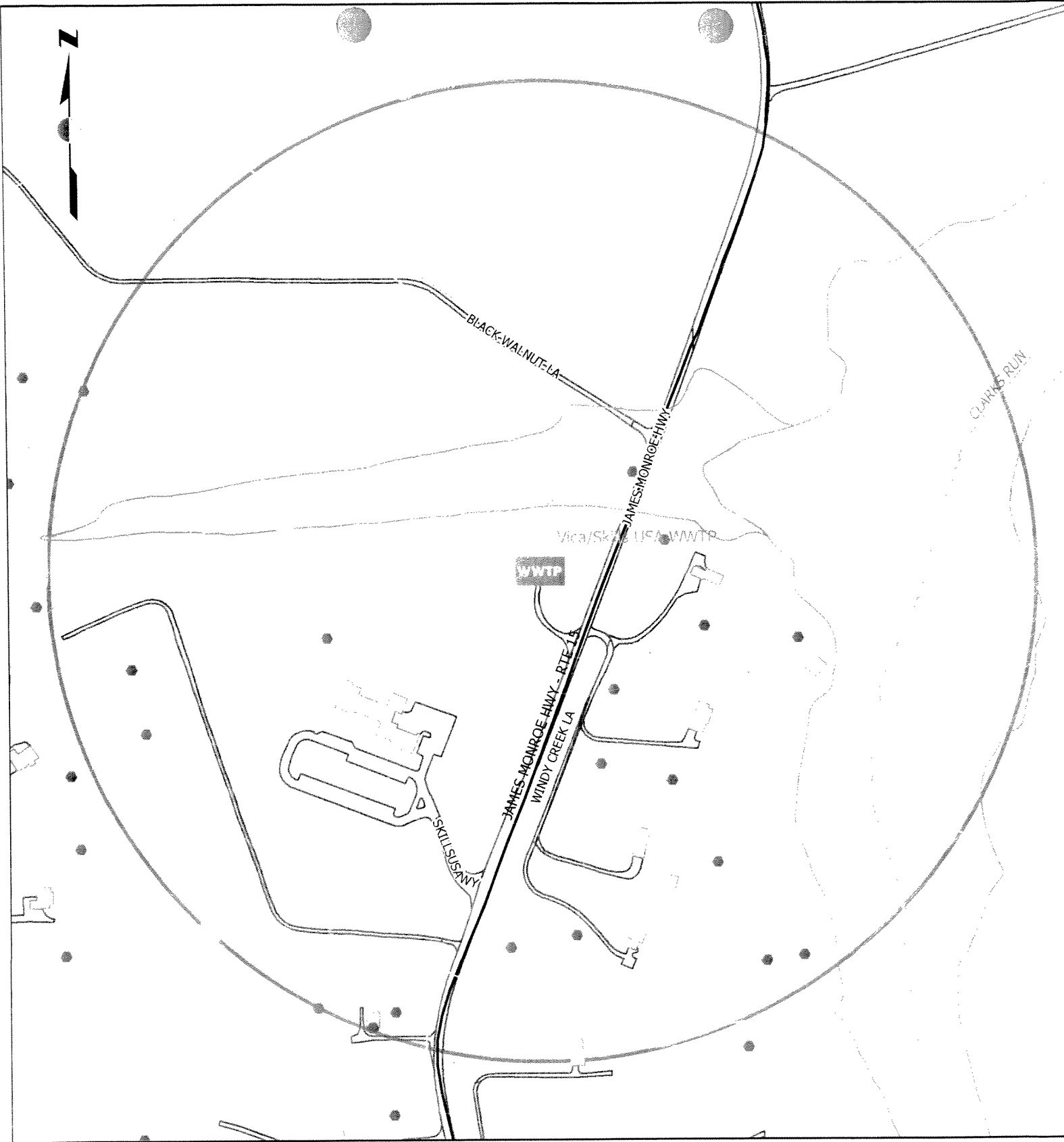
The high flow months are December through May.

This analysis assumes there are no significant discharges, withdrawals or springs influencing the flow in Clarks Run above the discharge point.

If there are any questions concerning this analysis, please let me know.

$$\begin{array}{rcl} 0.08 \times 0.6403 & = & .052 \\ 7Q10 & = & .058 \\ 30Q5 & = & .142 \\ HM & = & .349 \end{array}$$

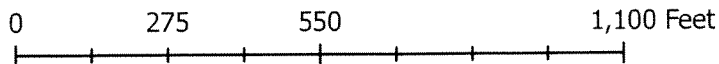




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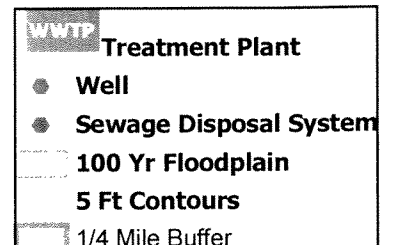
Prepared by the Loudoun Water GIS Department; please report errors and updates to: GISsupport@loudounwater.org.



1 inch = 350 feet

Attachment 3

## Skills USA/VICA Wastewater Treatment Plant



FRESHWATER  
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: SkillsUSA/VICA WWTP

Permit No.: VA0061280

Receiving Stream: Clark's Run

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	50 mg/L
90% Temperature (Annual) =	deg C
90% Temperature (Wet season) =	deg C
90% Maximum pH =	SU
10% Maximum pH =	SU
Tier Designation (1 or 2) =	1
Public Water Supply (PWS) Y/N? =	n
Trout Present Y/N? =	n
Early Life Stages Present Y/N? =	y

Stream Flows

1Q10 (Annual) =	0 MGD
7Q10 (Annual) =	0 MGD
30Q10 (Annual) =	0 MGD
1Q10 (Wet season) =	0 MGD
30Q10 (Wet season)	0 MGD
30Q5 =	0 MGD
Harmonic Mean =	0 MGD

Mixing Information

Annual - 1Q10 Mix =	100 %
- 7Q10 Mix =	100 %
- 30Q10 Mix =	100 %
Wet Season - 1Q10 Mix =	100 %
- 30Q10 Mix =	100 %

Effluent Information

Mean Hardness (as CaCO3) =	50 mg/L
90% Temp (Annual) =	22.1 deg C
90% Temp (Wet season) =	deg C
90% Maximum pH =	7.8 SU
10% Maximum pH =	SU
Discharge Flow =	0.0042 MGD

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	na
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	na
Acrylonitrile <sup>C</sup>	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	na
Aldrin <sup>C</sup>	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	3.0E+00	--	na
Ammonia-N (mg/l)	0	1.21E+01	1.95E+00	na	--	1.2E+01	2.0E+00	na	--	--	--	--	--	1.2E+01	2.0E+00	na
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	3.18E+00	na	--	1.2E+01	3.2E+00	na	--	--	--	--	--	1.2E+01	3.2E+00	na
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	na
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	na
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	3.4E+02	1.5E+02	na
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Benzo(a)anthracene <sup>C</sup>	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	na
Benzo(b)fluoranthene <sup>C</sup>	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	na
Benzo(k)fluoranthene <sup>C</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Benzo(a)pyrene <sup>C</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Chloroethyl Ether <sup>C</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Chloroisopropyl Ether	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	na
-Ethylhexyl Phthalate <sup>C</sup>	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	na
Isophthalic acid <sup>C</sup>	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	na
Isophthalic acid <sup>C</sup>	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	na
benzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	na
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	1.8E+00	6.6E-01	na
Carbon Tetrachloride <sup>C</sup>	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	na
Chlordane <sup>C</sup>	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	2.4E+00	4.3E-03	na
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	8.6E+05	2.3E+05	na

Attachment 4



Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	1.9E+01	1.1E+01	na
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	1.6E+03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Chlorodibromomethane <sup>c</sup>	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	na
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	na
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	na
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	na
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	8.3E-02	4.1E-02	na
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	3.2E+02	4.2E+01	na
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	1.6E+01	1.1E+01	na
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	na
Chrysene <sup>c</sup>	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	na
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	7.0E+00	5.0E+00	na
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	2.2E+01	5.2E+00	na
DDD <sup>c</sup>	0	--	--	na	3.1E+03	--	--	na	3.1E+03	--	--	--	--	--	--	na
DDE <sup>c</sup>	0	--	--	na	2.2E+03	--	--	na	2.2E+03	--	--	--	--	--	--	na
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E+03	1.1E+00	1.0E-03	na	2.2E+03	--	--	--	--	1.1E+00	1.0E-03	na
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	1.0E-01	na
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	1.7E-01	1.7E-01	na
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	na
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	na
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	na
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	na
Dichlorobromomethane <sup>c</sup>	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	na
1,2-Dichloroethane <sup>c</sup>	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	na
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	na
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	na
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	na
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,2-Dichloropropane <sup>c</sup>	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,3-Dichloropropene <sup>c</sup>	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	2.4E-01	5.6E-02	na
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	na
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	na
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	na
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	na
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	na
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	na
2,4-Dinitrotoluene <sup>c</sup>	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	na
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	na
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	na
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	2.2E-01	5.6E-02	na
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	2.2E-01	5.6E-02	na
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	2.2E-01	5.6E-02	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	na
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	8.6E-02	3.6E-02	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	3.0E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor <sup>C</sup>	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide <sup>C</sup>	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene <sup>C</sup>	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene <sup>C</sup>	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Alpha-BHC <sup>C</sup>	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+00
Gamma-BHC <sup>C</sup> (Lindane)	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachlorocyclopentadiene	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hexachloroethane <sup>C</sup>	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Hydrogen Sulfide	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Indeno (1,2,3-cd) pyrene <sup>C</sup>	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Iron	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone <sup>C</sup>	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	4.9E+01	5.6E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride <sup>C</sup>	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	1.0E-02	1.1E+01	na	4.6E+03	1.0E-02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	1.0E+02	1.1E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine <sup>C</sup>	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine <sup>C</sup>	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine <sup>C</sup>	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total <sup>C</sup>	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	--	na	6.4E-04
Pentachlorophenol <sup>C</sup>	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+00

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	2.0E+01	5.0E+00	na
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	1.0E+00	--	na
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,1,2,2-Tetrachloroethane <sup>C</sup>	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	na
Tetrachloroethylene <sup>C</sup>	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	na
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	na
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	na
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Toxaphene <sup>C</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	7.3E-01	2.0E-04	na
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	4.6E-01	7.2E-02	na
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	na
1,1,2-Trichloroethane <sup>C</sup>	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	na
Trichloroethylene <sup>C</sup>	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	na
2,4,6-Trichlorophenol <sup>C</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	na
2-(2,4,5-Trichlorophenoxy)propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Vinyl Chloride <sup>C</sup>	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	6.5E+01	6.6E+01	na

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Armonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Station_ID	Collection_	Field_pH	DO_Probe	Temp_Cels
1ACLK002	7/5/05	7.79	7.85	22.37
1ACLK002	7/5/05	7.79	7.85	22.37
1ACLK002	7/5/05	7.79	7.85	22.37
1ACLK002	7/5/05	7.79	7.85	22.37
1ACLK002	7/5/05	7.79	7.85	22.37
1ACLK002	7/5/05	7.79	7.85	22.37
1ACLK002	7/5/05	7.79	7.85	22.37
1ACLK002	9/1/05	7.51	7.53	21.72
1ACLK002	9/1/05	7.51	7.53	21.72
1ACLK002	9/1/05	7.51	7.53	21.72
1ACLK002	9/1/05	7.51	7.53	21.72
1ACLK002	9/1/05	7.51	7.53	21.72
1ACLK002	9/1/05	7.51	7.53	21.72
1ACLK002	9/1/05	7.51	7.53	21.72
1ACLK002	11/8/05	7.81	10.64	10.08
1ACLK002	11/8/05	7.81	10.64	10.08
1ACLK002	11/8/05	7.81	10.64	10.08
1ACLK002	11/8/05	7.81	10.64	10.08
1ACLK002	11/8/05	7.81	10.64	10.08
1ACLK002	11/8/05	7.81	10.64	10.08
1ACLK002	11/8/05	7.81	10.64	10.08
1ACLK002	1/23/06	7.81	13.5	6.1
1ACLK002	1/23/06	7.81	13.5	6.1
1ACLK002	1/23/06	7.81	13.5	6.1
1ACLK002	1/23/06	7.81	13.5	6.1
1ACLK002	1/23/06	7.81	13.5	6.1
1ACLK002	1/23/06	7.81	13.5	6.1
1ACLK002	1/23/06	7.81	13.5	6.1
1ACLK002	3/7/06	7.8	13.5	6.7
1ACLK002	3/7/06	7.8	13.5	6.7
1ACLK002	3/7/06	7.8	13.5	6.7
1ACLK002	3/7/06	7.8	13.5	6.7
1ACLK002	3/7/06	7.8	13.5	6.7
1ACLK002	3/7/06	7.8	13.5	6.7
1ACLK002	3/7/06	7.8	13.5	6.7
1ACLK002	5/23/06	7.8	10.4	14.2
1ACLK002	5/23/06	7.8	10.4	14.2
1ACLK002	5/23/06	7.8	10.4	14.2
1ACLK002	5/23/06	7.8	10.4	14.2
1ACLK002	5/23/06	7.8	10.4	14.2
1ACLK002	5/23/06	7.8	10.4	14.2
1ACLK002	5/23/06	7.8	10.4	14.2
1ACLK002	7/20/06	7.2 --	--	--
1ACLK002	7/20/06	7.2 --	--	--
1ACLK002	7/20/06	7.2 --	--	--
1ACLK002	7/20/06	7.2 --	--	--
1ACLK002	7/20/06	7.2 --	--	--
1ACLK002	7/20/06	7.2 --	--	--
1ACLK002	7/20/06	7.2 --	--	--
1ACLK002	9/25/06	7.6	8.8	17.9
1ACLK002	9/25/06	7.6	8.8	17.9

1CLK002	9/25/06	7.6	8.8	17.9
1CLK002	9/25/06	7.6	8.8	17.9
1CLK002	9/25/06	7.6	8.8	17.9
1CLK002	9/25/06	7.6	8.8	17.9
1CLK002	9/25/06	7.6	8.8	17.9
1CLK002	11/6/06	7.7	11.4	7.8
1CLK002	11/6/06	7.7	11.4	7.8
1CLK002	11/6/06	7.7	11.4	7.8
1CLK002	11/6/06	7.7	11.4	7.8
1CLK002	11/6/06	7.7	11.4	7.8
1CLK002	11/6/06	7.7	11.4	7.8
1CLK002	11/6/06	7.7	11.4	7.8
1CLK002	1/29/07	7.7	14	1.9
1CLK002	1/29/07	7.7	14	1.9
1CLK002	1/29/07	7.7	14	1.9
1CLK002	1/29/07	7.7	14	1.9
1CLK002	1/29/07	7.7	14	1.9
1CLK002	1/29/07	7.7	14	1.9
1CLK002	1/29/07	7.7	14	1.9
1CLK002	1/29/07	7.7	14	1.9
1CLK002	3/13/07	7.7	12.6	8
1CLK002	3/13/07	7.7	12.6	8
1CLK002	3/13/07	7.7	12.6	8
1CLK002	3/13/07	7.7	12.6	8
1CLK002	3/13/07	7.7	12.6	8
1CLK002	3/13/07	7.7	12.6	8
1CLK002	3/13/07	7.7	12.6	8
1CLK002	5/14/07 --	--	--	--
1CLK002	5/14/07 --	--	--	--
1CLK002	5/14/07 --	--	--	--
1CLK002	5/14/07 --	--	--	--
1CLK002	5/14/07 --	--	--	--
1CLK002	5/14/07 --	--	--	--
1CLK002	5/14/07 --	--	--	--
1CLK002	7/31/07	7.6	6.2	22.1
1CLK002	7/31/07	7.6	6.2	22.1
1CLK002	7/31/07	7.6	6.2	22.1
1CLK002	7/31/07	7.6	6.2	22.1
1CLK002	7/31/07	7.6	6.2	22.1
1CLK002	7/31/07	7.6	6.2	22.1
1CLK002	7/31/07	7.6	6.2	22.1
1CLK002	9/5/07	7.8	7.9	20.2
1CLK002	9/5/07	7.8	7.9	20.2
1CLK002	9/5/07	7.8	7.9	20.2
1CLK002	9/5/07	7.8	7.9	20.2
1CLK002	9/5/07	7.8	7.9	20.2
1CLK002	9/5/07	7.8	7.9	20.2
1CLK002	9/5/07	7.8	7.9	20.2
1CLK002	11/6/07	7.5	10.3	9.9
1CLK002	11/6/07	7.5	10.3	9.9
1CLK002	11/6/07	7.5	10.3	9.9
1CLK002	11/6/07	7.5	10.3	9.9
1CLK002	11/6/07	7.5	10.3	9.9



1CLK002	11/6/07	7.5	10.3	9.9
1CLK002	11/6/07	7.5	10.3	9.9
1CLK002	1/28/08	8.1	14.9	1.4
1CLK002	1/28/08	8.1	14.9	1.4
1CLK002	1/28/08	8.1	14.9	1.4
1CLK002	3/26/08	8	12.6	8.4
1CLK002	3/26/08	8	12.6	8.4
1CLK002	3/26/08	8	12.6	8.4
1CLK002	5/8/08	7.7	9	16.7
1CLK002	5/8/08	7.7	9	16.7

90th percentile		7.81		22.1
-----------------	--	------	--	------

4/13/2010 7:59:52 AM

Facility = SkillsUSA/VICA  
Chemical = Ammonia as N  
Chronic averaging period = 30  
WLAa = 12  
WLAc =  
Q.L. = .2  
# samples/mo. = 1  
# samples/wk. = 1

Summary of Statistics:

# observations = 1  
Expected Value = 9  
Variance = 29.16  
C.V. = 0.6  
97th percentile daily values = 21.9007  
97th percentile 4 day average = 14.9741  
97th percentile 30 day average = 10.8544  
# < Q.L. = 0  
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity  
Maximum Daily Limit = 0  
Average Weekly limit = 0  
Average Monthly Limit = 0

The data are:

4/21/2005 11:03:23 AM

Facility = Skills USA/VICA STP  
Chemical = Total Residual Chlorine  
Chronic averaging period = 4  
WLAa = 0.019  
WLAc = 0.011  
Q.L. = .1  
# samples/mo. = 30  
# samples/wk. = 8

Summary of Statistics:

# observations = 1  
Expected Value = .2  
Variance = .0144  
C.V. = 0.6  
97th percentile daily values = .486683  
97th percentile 4 day average = .332758  
97th percentile 30 day average = .241210  
# < Q.L. = 0  
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity  
Maximum Daily Limit = 1.60883226245855E-02  
Average Weekly limit = 9.59676626920106E-03  
Average Monthly Limit = 7.9737131838758E-03

The data are:

0.2

MEMORANDUM

State Water Control Board

2111 North Hamilton Street

P.O. Box 11143

Richmond, VA. 23230

SUBJECT: Loudoun County - LHS - 120 - Vocational Industrial Clubs of America - Site Inspection

TO: File

FROM: Gary N. Moore

DATE: February 5, 1974

COPIES:

*decline act. man. 2-5-74*

	<u>POD</u>	<u>Rt. 15 at Intermittent Stream</u>	<u>Rt. 15 at Clark's Run</u>
Width (ft.)	4-8	4-5	3-4
Depth (ft.)	1/2-3	.3-.8	.3-.8
Bottom	sandy	sandy	sandy
Water Temp (°F)	46	46	46
Air Temp (°F)	64	64	64
D.O. (mg/l)	11.4	11.8	12.2
Flow (ft/sec)	1	1	1

D.A. above point of discharge - 2.3 sq. mi.

$$Q \text{ of Clark's Run} = \frac{2.3 \times .007}{1.55} = .0103 \text{ mgd}$$

Quade used: Waterford, Point of Rocks, Poolesville

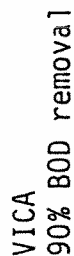
$$K_{a30} = .7 \times 1.22 = .854 \text{ day}^{-1}$$

$$K_{d30} = .2 \times 1.48 = .296 \text{ day}^{-1}$$

SAA will be run using 90% BOD removal (24 mg/l)

GNM/by

90% removal meets  
non-degradation  
policy



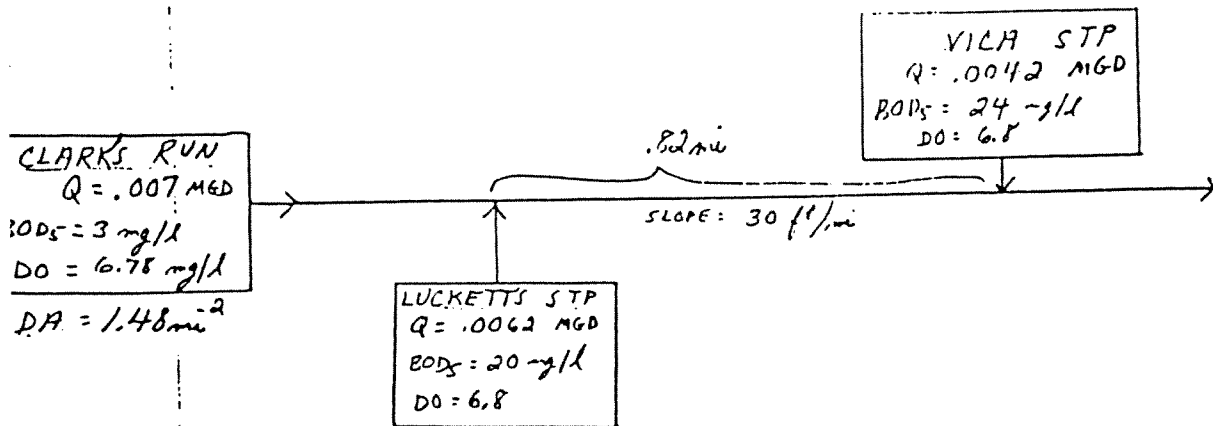
Date,

Here is a preliminary model of Luchetta STP for your perusal. I've come up with a BODs limit of 20 mg/l to maintain reasonable anti-degradation requirements below the VICA STP. The Luchetta STP won't be able to meet the 20 mg/l since it is an existing lagoon in extremely poor condition. <sup>(It can't meet much of any limit!)</sup> I've attached the only VICA model that I can find. As you will see, the VICA model indicates a flow of .00225 MGD, yet the current permit has a flow of 0.0042 MGD. Where the revised VICA model might be, I don't know. It's not on file.

If the model I've sent to you looks OK as is, please keep it as the official version. Otherwise, give me a call and I'll <sup>make</sup> the necessary changes. Thanks,

SC  
NRO

# Luckett's Train Park STP / Loudoun County



Stream Gage Data : Goose Creek, near Leesburg VA

$$Q_{7-10} = 2.3 \text{ cfs}$$

$$D.A. = 332 \text{ sq. mi.}$$

$$\frac{.007 \text{ cfs}}{\text{mi}^2} \times 1.48 \text{ mi}^2 = \frac{.01036}{1.547} = .007 \text{ MGD}$$

# Luchetti Trailer Park

Assume STP :  $BOD_5 = 20 \text{ mg/l}$   
 $DO = 6.8 \text{ mg/l}$   
 $Q = .0062 \text{ MGD}$

Stream :  $BOD_5 = 3 \text{ mg/l}$   
 $Q = .007 \text{ MGD}$   
 $DO (\text{calculated})$

$$BOD_4 = \frac{50(.0062) + 7.5(.007)}{.0132} = \frac{.31 + .052}{.0132} = 27.4 \text{ mg/l}$$

$$K_1 \text{ based on } BOD_5 = 11.0 = .142 (1.047)^{10} = .225$$

$$DO_{SAT} = 7.6 (1 - .00003 (300 \text{ ft}))$$
$$= 7.53$$

elevation = 300 feet

$$90\% DO_{SAT} = 6.78 \text{ mg/l}$$

$$DO_f = \frac{6.8(.0062) + 6.78(.007)}{.0132} = \frac{.042 + .047}{.0132} = 6.79 \text{ mg/l}$$

$$Da = 7.53 - 6.79 = .74$$

$$K_m = 0$$

$K_2$ : Using Trivoglar / Wallace equation:

slope  $\approx 30 \text{ ft/mi.}$   
 $v = .25 \text{ ft/sec}$

$$K_2 = 4235.36 \text{ US}$$
$$= (4235.36)(.25)(30)(5280^{-1}) = 6$$

or,  $K_2 = (.025)(24)(30) = 18$



$$K_2 \text{ AVG} = (6 + 18) / 2 = 12$$

$$K_2 = 12 (1.024)^{10} = \underline{15.2} \text{ corrected}$$

$$\text{Time} = \frac{4329.6 \text{ ft}}{.25 \text{ ft/s}} = .200 \text{ day}$$

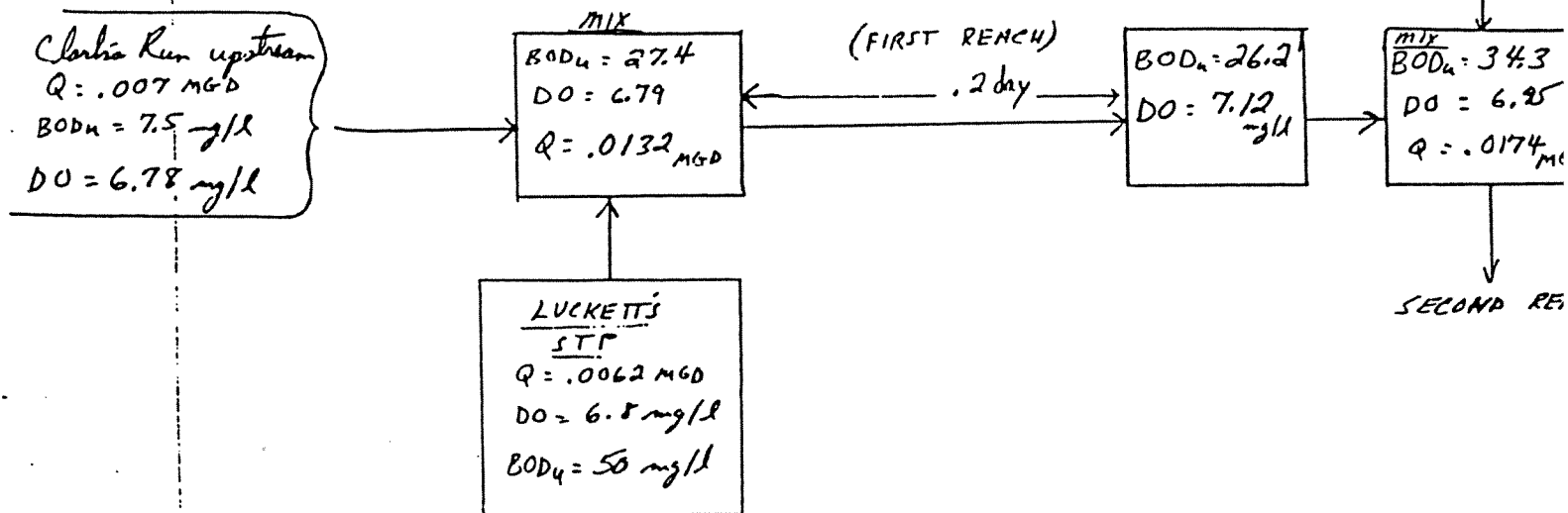
### FIRST REACH

SUME STP:  
DO = 6.8  
BOD<sub>5</sub> =

	20	20	20	20
WATER MIX)				
↳ BOD <sub>4</sub>	27.4	27.4	27.4	27.4
NOD <sub>4</sub>	0	0	0	0
Da	.74	.74	.74	.74
K <sub>1</sub>	.225	.450	.225	.450
K <sub>m</sub>	0	0	0	0
K <sub>2</sub>	15.2	15.2	7.6	7.6
STEP	.04	.04	.04	.04
DO <sub>SAT</sub>	7.53	7.53	7.53	7.53
DO <sub>SAT</sub> 90 %	6.78	6.78	6.78	6.78
t (day)	.200	.200	.200	.200
DO <sub>SAG</sub>	6.94	6.75	6.75	—
DO <sub>END</sub>	7.12	6.77	* 6.75	6.16
Sensitivity	AS calculated	Double K <sub>1</sub>	Halve K <sub>2</sub>	Double K <sub>1</sub> and Halve K <sub>2</sub>
Acceptable	✓	✓	✓	X

\* If the model is allowed to run past .20 day where the VICA STP input  
it remains at 20 day and begins to increase at that point.

Running the second reach of the model with the VICM STP input — the VICM model (done in 1974) apparently required a DO in the upstream reach of at least 6.0 mg/l. At .2 day (the end of the 1st reach just prior to the VICM discharge) a DO value of 6.75 mg/l is quite acceptable at the  $K_2/2$  sensitivity.



### Second Reach

$$BOD_u = \frac{(26.2)(.0132) + (60)(.0042)}{.0174} = 34.3 \text{ mg/l}$$

$$K_1 = .253$$

$$DO_s = \frac{(7.1)(.0132) + 6.8(.0042)}{.0174} = 6.95 \text{ mg/l}$$

$$D_a = 7.53 - 6.95 = .58$$

$$K_2 = 15.2_{\text{AVG}}$$

$$\text{Time} = .4 \text{ day}$$

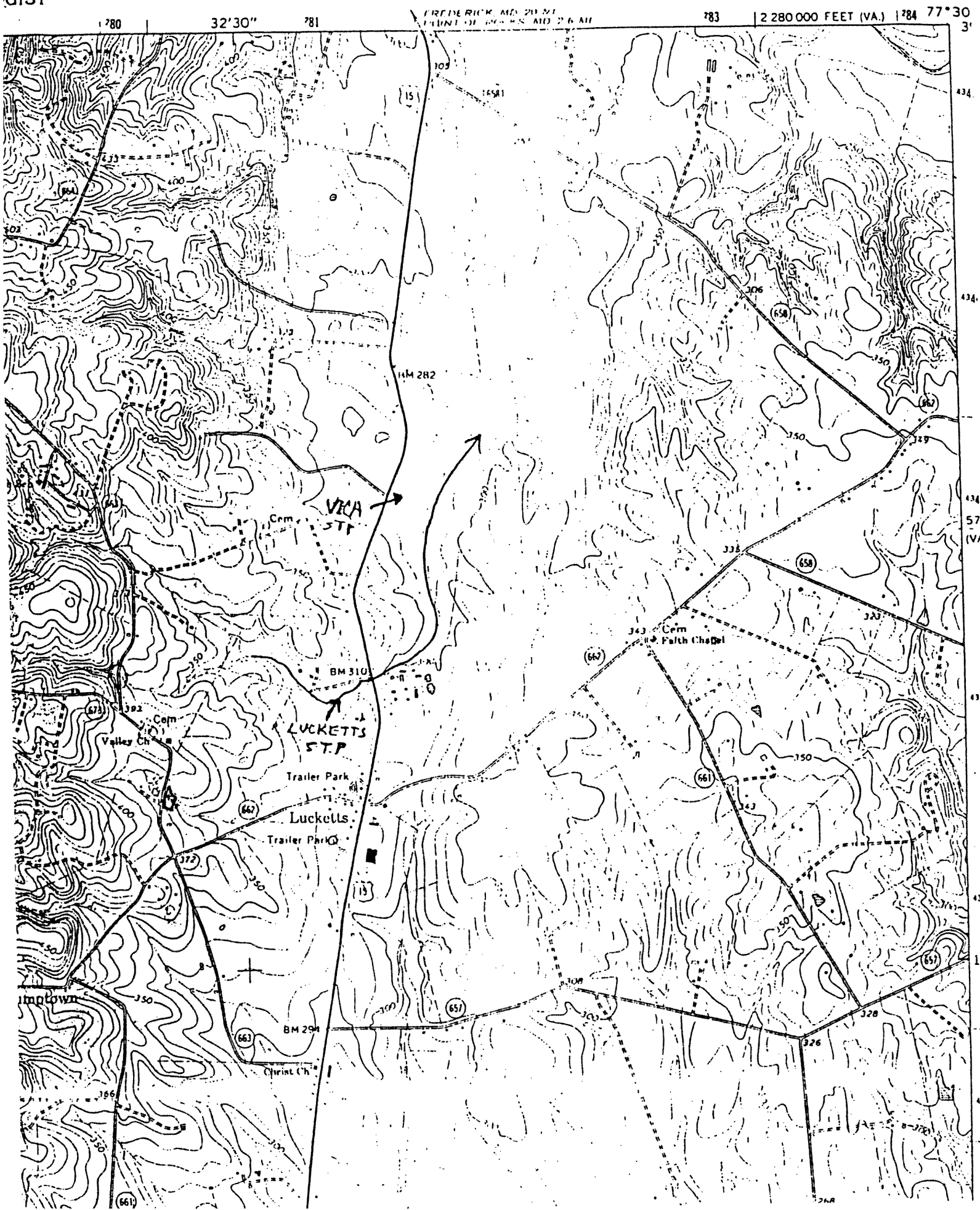
### SECOND REACH

FTER MIX → BOD <sub>u</sub>	34.3	34.3	34.3	34.3
NOD <sub>u</sub>	0			→
D <sub>a</sub>	.58	.58	.58	.58
K <sub>1</sub>	.253	.506	.253	.506
K <sub>m</sub>	0			→
K <sub>2</sub>	15.2	15.2	7.6	7.6
STEP	.64			→
DO <sub>SAT</sub>	7.53			→
DO <sub>SAT</sub> 90%	6.78			→
ε	.14			→
DO <sub>SAG</sub>	6.95	6.491	6.490	5.61
DO <sub>END</sub>	7.0	6.56	6.491	5.62
Insensitivity	As calculated	Double K <sub>1</sub>	Halve K <sub>2</sub>	Double K <sub>1</sub> and Halve K <sub>2</sub>
Acceptable	✓	✓	✓	X
Df	-1.2	.29	.29	1.17

Conclusion : Luckhito STP permit limits should include :  
 BOD<sub>5</sub> = 20 mg/l  
 DO = 6.8

NIA  
CES  
GIST

TERFORD QUADRANGLE  
VIRGINIA - MARYLAND  
7.5 MINUTE SERIES (TOPOGRAPHIC)



Public Notice – Environmental Permit

**PURPOSE OF NOTICE:** To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Loudoun County, Virginia.

**PUBLIC COMMENT PERIOD:** XXX, 2010 to 5:00 p.m. on XXX, 2010

**PERMIT NAME:** Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

**APPLICANT NAME, ADDRESS AND PERMIT NUMBER:** Loudoun Water, PO Box 4000, Ashburn, VA 20146, VA0061280

**NAME AND ADDRESS OF FACILITY:** SkillsUSA/VICA STP, 14001 James Monroe Hwy, Leesburg, VA 20176

**PROJECT DESCRIPTION:** Loudoun Water has applied for a reissuance of a permit for the public SkillsUSA/VICA STP. The applicant proposes to release treated sewage wastewaters from a training center at a rate of 0.0042 million gallons per day into a water body. The sludge will be disposed by pump and haul to an approved facility. The facility proposes to release the treated sewage waters in the Clark's Run in Loudoun County in the Potomac watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: BOD, TSS, Ammonia as N, Dissolved Oxygen, E. coli, and Total Residual Chlorine.

**HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING:** DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit.

**CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:** The public may review the documents at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Alison Thompson

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3834 E-mail: Alison.Thompson@deq.virginia.gov Fax: (703) 583-3821

Revised 2/2003

**State "Transmittal Checklist" to Assist in Targeting  
Municipal and Industrial Individual NPDES Draft Permits for Review**

**Part I. State Draft Permit Submission Checklist**

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Skills USA/VICA STP
NPDES Permit Number:	VA0061280
Permit Writer Name:	Alison L. Thompson
Date:	April 13, 2010

**Major** ☐                      **Minor** ☒                      **Industrial** ☐                      **Municipal** ☒

**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

**I.B. Permit/Facility Characteristics**

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet <b>or</b> permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet <b>or</b> permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?		X	
a. Has a TMDL been developed and approved by EPA for the impaired water?			X
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			X
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

<b>I.B. Permit/Facility Characteristics – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

## Part II. NPDES Draft Permit Checklist

### Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?	X		
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?		X	
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		



<b>II.D. Water Quality-Based Effluent Limits – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

<b>II.E. Monitoring and Reporting Requirements</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?		X	

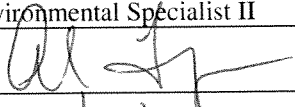
<b>II.F. Special Conditions</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?			X

<b>II.F. Special Conditions – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the <b>permit</b> contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
<b>List of Standard Conditions – 40 CFR 122.41</b>			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

### Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Alison L. Thompson</u>
Title	<u>Environmental Specialist II</u>
Signature	<u></u>
Date	<u>4/13/10</u>